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Le but de cette recherche était d'évaluer l'habileté de communication en français et le rendement scolaire d'élèves provenant de différentes communautés ethniques et intégrés au secteur français de la CEPGM. Cinq groupes d'élèves de 4e année ont pris part à cette étude: un groupe d'élèves allophones intégrés au secteur français depuis au moins trois ans, un groupe d'élèves qui n'étaient intégrés à ce secteur que depuis un ou deux ans, un groupe d'origine haïtienne (français et créole à la maison), et deux groupes de francophones unilingues. Les résultats indiquent que les élèves de différentes origines ethniques réussissent beaucoup mieux après avoir été intégrés au secteur pendant au moins trois ans. Les résultats montrent aussi qu'une fois arrivés en 4e année, les élèves allophones réussissent aussi bien que les francophones à certains tests spécifiques de français. Cependant, leur niveau général de compétence en français n'atteint pas celui des francophones.

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INTEGRATING INTO THE FRENCH SECTOR: AN EVALUATION OF LINGUISTIC AND ACADEMIC ACHIEVEMENT OF GRADE 4 STUDENTS FROM DIFFERENT ETHNIC BACKGROUNDS

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Résumé

Le but de cette recherche était d'évaluer l'habilité linguistique et le rendement académique d'élèves provenant de différentes communautés ethniques. Cinq groupes d'élèves de 4e année ont pris part à cette étude: (1) un groupe d'élèves allophones qui suivaient le programme régulier du secteur français de la C.E.G.P.M. depuis au moins trois ans (groupe ALL_1), (2) un groupe d'élèves qui n'étaient intégrés dans le programme régulier que depuis un ou deux ans (groupe ALL_2), aucun des élèves de ces deux groupes ne parlait français à la maison, (3) un groupe d'élèves d'origine haïtienne qui parlaient français et créole à la maison (groupe HAI), (4) un groupe d'élèves francophones unilingues provenant des écoles du secteur français de la C.E.P.G.M. (groupe FR_1) et (5) un groupe d'élèves francophones unilingues proviennent d'une autre commission scolaire (groupe FR_2).

L'habilité linguistique a été évaluée à l'aide des tests suivants: un test de lecture, un test de rendement en français, un test de production écrite et un test d'expression orale. Le rendement académique a été évalué à l'aide d'un test de rendement en mathématiques.

Les résultats indiquent que: (1) le groupe ALL_2 a obtenu des résultats nettement inférieurs à ceux des autres groupes à tous les tests sauf au sous-test de ponctuation et à deux sous-tests de mathématiques. (2) Il n'y avait pas de différences significatives entre les groupes ALL_1, HAI, FR_1 et FR_2 au test de lecture et à la

plupart des mesures d'évaluation de la production écrite. (3) Au test de rendement en français et au test d'expression orale le groupe ALL_1 a obtenu des résultats nettement inférieurs à ceux des groupes FR_1 et FR_2. (4) Le groupe HAI a obtenu des résultats nettement supérieurs à ceux du groupe ALL_1 à ces mêmes tests; cependant, sauf à trois sous-tests, la performance du groupe HAI était inférieure à celle des groupes FR_1 et FR_2 à ces tests. (5) Au test de mathématiques il n'y avait pas de différences significatives entre les groupes ALL_1, FR_1 et FR_2. Le groupe HAI a obtenu des résultats nettement inférieurs à ceux du groupe FR_2 au rendement total en mathématiques et il a aussi obtenu des résultats inférieurs à ceux du groupe ALL_1 à un des sous-tests.

Les résultats nous mènent à conclure que les élèves de différentes origines ethniques réussissent beaucoup mieux dans le programme de français après avoir été intégrés dans le cours régulier pendant au moins trois ans. Les résultats montrent aussi qu'une fois arrivés en 4e année la performance des élèves allophones dans certains tests spécifiques de français est aussi bonne que celle des élèves francophones de leur âge. Cependant leur niveau général de compétence en français n'a pas encore atteint celui d'un locuteur natif.

Summary

The purpose of this study was to assess the linguistic and academic achievement of grade 4 students from different ethnic backgrounds. Five groups of students participated in this study: (1) a group of ethnic minority students who had been integrated in the regular program of the French sector of the P.S.B.G.M. for three years or more (ALL_1 group); (2) a group of ethnic minority students who had been integrated in the regular program for only one or two years (ALL_2 group); none of these students spoke French at home; (3) a group of Haitian students who spoke French and Créole at home (HAI group); (4) a group of monolingual French speakers attending schools in the French sector of P.S.B.G.M. (FR_1 group) and (5) a group of monolingual French speakers attending French schools from another school commission (FR_2 group).

French language proficiency was measured by the following tests: a reading test, a vocabulary and grammar test (test de rendement en français), an oral production test and a written production test. Academic achievement was measured by a battery of mathematics tests (test de rendement en mathématiques).

The results indicate that: (1) the ALL_2 group scored significantly lower than the other groups on all the tests except on the punctuation subtest and on two mathematics subtest. (2) There were no significant differences between the ALL_1, HAI, FR_1 and FR_2 groups on the reading test and on most measures of the written

production test. (3) The ALL_1 group scored significantly lower than the FR_1 and FR_2 groups on the test de rendement en français and on the oral production test. (4) The HAI group scored significantly higher than the ALL_1 group on these tests. However, except on three subtests, the performance of the HAI group was lower than that of the FR_1 and FR_2 groups on these tests. (5) There were no significant differences among the ALL_1, FR_1 and FR_2 groups on the mathematics tests. The HAI group scored significantly lower than the FR_2 group on the total score of this test and significantly lower than the ALL_1, group on one of the subtests.

The results lead to the conclusion that the students from different ethnic backgrounds can cope much better with the French program after they have been intergrated into the regular classroom for at least three years. The results also show that, by grade 4, the allophone students' performance on specific French language tests is as good as that of their francophone peers. Yet their overall proficiency in French has not reached a native like level.

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This study is part of a longitudinal evaluation of the linguistic and academic achievement of non-francophone students in the French sector of the P.S.B.G.M. These students (hereafter referred to as allophones) come from different ethnic backgrounds and many of them speak more than one language at home. Most of the allophone students attend a welcoming class (classe d'accueil) for ten months prior to their insertion into regular French classrooms. The purpose of the welcoming class is to enable the students to acquire a functional knowledge of French prior to their insertion into the French classroom. This initial intensive French language program is followed by additional French language courses during the students' first year in the regular program.

Insertion into the French classroom generally assumes that the allophone students not only follow the regular program, but that they do so in a milieu where most of their peers are native French speakers. However, the school population in the P.S.B.G.M.'s French sector is ethnically very heterogeneous, so that there are often few or no francophone students in the classroom. Research into second language development reveals that native-like proficiency is slow to develop when contacts with native peers are lacking. Most of the available studies pertain, however, to the learning of French in immersion settings (see for instance Adiv, Note 1; Harley and Swain, 1977; Spilka, 1976). The present longitudinal evaluation of the linguistic and academic achievement of the allophone students in the P.S.B.G.M. provides the first assessment of the effect of little or no native

peer contact within the framework of regular French schools.

Summary of Previous Research

So far,the development of French language skills of the allophone students has been followed from kindergarten through grade 3 (Adiv, Notes 2, 3, 4; Adiv and Doré, Note 5). Achievement in mathematics has been evaluated since the students' insertion into the regular program i.e.,in grades 2 and 3 (Adiv, Note 4; Adiv and Doré, Note 5). The findings indicate that,at the end of grade 3, the allophone students' proficiency in French was still significantly lower than that of grade 3 native French speakers on practically all measures of evaluation. On the other hand, their achievement in mathematics was comparable to that of francophone students at the same grade level. The studies also indicate that students who were in contact with francophone peers in the classroom tended to perform better on the French language tests than those who lacked such contacts. Finally, for the second year in succession, the Haitian students performed as well as the monolingual native French speakers on all the literacy-based French language tests and on most of the mathematics tests.

The present study was undertaken to assess French language proficiency and academic achievement of allophone students after a further year of schooling in the regular French program i.e., at the end of grade 4. As in previous studies, it was decided to keep the Haitian students as a separate group. Furthermore, the results of

students who had been inserted into the regular program only in grade 3 or grade 4 were analyzed separately.

Method

Subjects

Three hundred fifty eight students participated in this study. All of them were studying in grade 4. The students were divided into five groups (for exact sample sizes see Table IA).

Two of the groups consisted of allophone students who spoke neither Créole nor French at home. The majority of these students (hereafter ALL_1 group) had attended a welcoming class in kindergarten or grade 1 and all of them had been inserted into the regular classroom by grade 2. The other allophone group (hereafter ALL_2 group) consisted of students who had attended a welcoming class in grade 2 or grade 3 and had been inserted in the regular classroom for only one or two years.

The third group of students was composed entirely of Haitian students (hereafter HAI group). These students spoke either Créole or Créole and French at home. All of them had followed the regular program since grade 2.

The last two groups were control groups. They consisted of monolingual French speakers. The students in the first group (hereafter FR_1) studied in the same classes as the experimental groups and their proportion within the classroom varied considerably from school to

school (for a list of the participating schools and their population characteristics at the grade 4 level see Table 2). The second group (hereafter FR_2) came from two schools belonging to another school commission. They studied in classes which contained few or no allophone students.

Most of the francophone students were native French Quebecers. The others came from countries where French was either the national language or one of the main languages spoken in that country. In either case, French was the only language spoken with the students at home.

All the students came from middle to lower-middle socio-economic class homes except in two schools where the income bracket of the parents ranged from middle to upper-middle socio-economic class levels.

In order to control as much as possible the effect of differences in mental capacities that could exist between the groups, the students were administered the Standard Progressive Matrices Test (revised order, Raven, 1956).

The Tests

Two batteries of tests were administered: (1) a set of French language tests and (2) a set of mathematics tests.

(1) The French Tests

The following French language tests were administered: (i) a reading comprehension test (test de lecture), (ii) a test de rendement en français, (iii) a composition (test de production écrite) and (iv) an oral production test (test d'expression orale).

(i) Test de lecture

This test was developed by the Research Department of the P.S.B.G.M. It contains nine reading passages of varying lengths. The passages consist of short stories, descriptive narratives, an auto-biography, a comic strip and an announcement containing instructions of how to register for a prize-winning competition. Each passage is followed by several questions with multiple-choice answers (30 questions in all). Except for the example given at the beginning of the test, the students read all the passages and the questions with their multiple-choice answers on their own.

(ii) Test de rendement en francais

This test was developed and standardized by the Catholic School Commission of Montreal (C.E.C.M.) for use in its schools. A different form is used at each grade level (grade 1 - grade 9). The form administered in the present study was the test de rendement en français no 4. It consists of nine sub-tests and assesses various language arts skills in the areas of spelling, vocabulary, sentence interpretation and grammar. In all, the test contains 35 items. All the items are multiple-choice items. The stimulus items were presented orally and in written form. The multiple-choice answers were only presented in writing. In the analysis of the results, all the sub-tests, except the one pertaining to spelling (4 items) were regrouped into the following three categories: (i) usage (8 items), (ii) vocabulary (14 items) and (iii) grammar (9 items).

(iii) Test de production écrite

For this test, the students were asked to write a composition on one of four alternative topics. The topics lent themselves to the use of a variety of styles (narrative, descriptive and direct dialogues).

To assess the students' skills in composition writing, each composition was evaluated by two native French-speaking judges, working independently. Five aspects of written proficiency were assessed: content, grammar, vocabulary, spelling and punctuation. Each variable was assessed on a rating scale ranging from a maximum of 5 to a minimum of 1. The ratings of the two judges were combined to form an average score for each variable.

(iv) Test d'expression orale

This test was developed by the Research Department of the P.S.B.G.M. It consists of three parts. The first part is an interview where the student is asked his or her opinion about television programs and television viewing habits in the home. The student is also asked to talk about a trip he or she recently took. The second part of the test consists of a comic strip which the students is asked to describe. No questions were asked during this part of the test. However, if the student skipped over several pictures, his or her attention was drawn to these pictures. The third part of the test consists of three sets of pictures. Each set contains four or five pictures which form a story. The student had to choose and describe one picture in each set while the tester sat with his or her back turned to the student. The tester had to guess which picture had been chosen. If the tester guessed incorrectly, the student was given a second chance.

To assess the students' proficiency in oral production, each speech sample was evaluated by two native French-speaking judges who worked independently. Four aspects of language proficiency were assessed: pronunciation, grammar, vocabulary and communication. Communicative ability on the interview task was assessed independently from communicative ability on the two picture-based tasks. Each variable was assessed on a rating scale ranging from a maximum of 5 to a minimum of 1. In addition a socio-linguistic dimension was added to the assessment of the students' oral production. Here each judge was asked to rate on a 3 point scale the extent to which students used typically Quebecois expressions, particularly interjections such as ou ben, ben donc, pis, t'sais. While these measures are not indicators of French proficiency per se, it was felt that they do provide insights into the students' linguistic integration into the Quebec milieu.

The ratings of the two judges were then combined to form an average score for each variable. It should be noted that this test was only administered to a subsample of the population (for exact sample sizes of the groups see Table 1B).

(2) The Mathematics Tests

The Mathematics tests consisted of a battery of tests developed and standardized by the Catholic School Commission of Montreal. A different form is used at each grade level (grade 1 - grade 9). The form used in the present study was the Test de rendement en mathématiques no 4. It consists of 40 items. All the items are multiple-choice items. The stimulus items were presented orally and in written form. The

multiple-choice answers were only presented in writing. For the analysis of the results, the 40 items were grouped according to four major categories (i) problem solving (6 items), (ii) mathematical operations (9 items), (iii) number concepts (15 items) and (iv) figure and shape concepts (10 items).

Procedure for Administering the Tests

All the tests, except the oral production test, were group administered to intact grade 4 classes. In keeping with the testing dates followed by the C.E.C.M., the test de rendement en français and the test de rendement en mathématiques were administered in November. All the other tests were administered in April.

The oral production test was administered individually to a subsample of the students (for exact sample sizes see Table 18). Each testing session lasted 8-10 minutes and the entire session was tape-recorded.

All the tests were administered by native French-speaking testers from the P.S.B.G.M. Research Department. However, in the two schools which did not belong to the P.S.B.G.M., the test de rendement en français and the test de rendement en mathématiques were administered by the respective classroom teachers as they formed part of these schools' standard testing program.

Results

The students' scores on the Standard Progressive Matrices Test

were analyzed first, using an analysis of variance procedure. The main variable was group membership (ALL_1, ALL_2, HAI, FR_1 and FR_2). The results of this analysis reveal statistically significant differences among the groups ($F = 2.35$; $df = 4,353$; $p < .05$). Since these differences could influence the results of the other tests, the latter were analyzed using an analysis of covariance procedure (see Appendix I for a short explanation). Separate analyses were carried out for each test and subtest. In addition, wherever significant differences were noted, a Newman Keuls procedure of multiple comparisons was used to determine which groups differed significantly from one another. The results of the French language tests are summarized in Table 3 and the results of the mathematics tests are summarized in Table 4. The test results shown in the tables represent the means adjusted for group differences on the Raven Matrices scores.

(1) The French Test Results

(i) Test de lecture

The results of the test de lecture show that the ALL_2 group ($\bar{X} = 16.24$) scored significantly lower than all the other groups and there were no other significant differences among the groups. In descending order, the groups ranked as follows: FR_1, $\bar{X} = 22.20$; FR_2, $\bar{X} = 21.62$; HAI, $\bar{X} = 20.76$; ALL_1, $\bar{X} = 20.02$.

(ii) Test de rendement en français

The results of the test de rendement en français were analyzed in two ways: (1) on basis of the raw scores and (2) on basis of the converted stanine scores (see Appendix II for a brief explanation). The statistical analysis of the latter scores reveals that the ALL_2 group

($\bar{X}$ = 2.26) scored significantly lower than the ALL_1 group ($\bar{X}$ = 3.33) who, in turn, scored significantly lower than the HAI, FR_1 and FR_2 groups. There was no significant difference between the stanine score of the HAI group ($\bar{X}$ = 4.60) and that of the FR_2 group ($\bar{X}$ = 4.74) and both groups scored significantly lower than the FR_1 group ($\bar{X}$ = 5.40). By comparison to the test norms for the French population of the C.E.C.M., the FR_1, FR_2 and HAI groups performed within the "average range" of the stanine scale, whereas both the ALL_1 and the ALL_2 groups performed in the "below average" range.

The analysis of the raw scores of the test de rendement en français pertains to the results of four of the groups only (ALL_1, ALL_2, HAI and FR_1) since raw scores were not available for the FR_2 group. The analysis shows that both for the total score and for the subscores (usage, vocabulary, grammar), the four groups differed significantly from one another except in the case of grammar where the performance of the HAI group ($\bar{X}$ = 5.74) did not differ significantly from that of the FR_1 group ($\bar{X}$ = 6.29). In descending order, the groups ranked as follows: (1) FR_1, (2) HAI, (3) ALL_1 and (4) ALL_2 (for exact score values see Table 3).

(iii) Test de production écrite

On the test de production écrite, the ALL_2 group was rated lower than the other groups on content ($\bar{X}$ = 2.67), vocabulary ($\bar{X}$ = 2.60) and grammar ($\bar{X}$ = 2.33) and there were no significant differences among the other four groups on these measures.

In spelling, the FR_2 group ($\bar{X}$ = 2.57) was almost as weak as the

ALL_2 group ($\bar{X}$ = 2.40) and both groups were rated significantly lower than the FR_1 group ($\bar{X}$ = 3.09), the HAI group ($\bar{X}$ = 3.03) and even the ALL_1 group ($\bar{X}$ = 2.81). Among the latter three groups the ALL_1 group was rated significantly lower than the FR_1 group.

In punctuation, the FR_2 group ($\bar{X}$ = 2.40) was rated lower than any of the other groups. The difference between this group and the other groups was, however, only significant in the case of the ALL_1 group ($\bar{X}$ = 2.99) and the FR_1 group ($\bar{X}$ = 2.98).

(iv) Test d'expression orale

As noted above, this test was not administered to the ALL_2 group. The results for the other groups indicate that the ratings obtained by the four groups differed significantly from one another on pronunciation (ALL_1, $\bar{X}$ = 3.57; HAI, $\bar{X}$ = 3.81; FR_1, $\bar{X}$ = 4.60; FR_2, $\bar{X}$ = 5.00). On all the other measures of evaluation, the ALL_1 group was rated significantly lower than the other three groups except for communication I (the interview task) where there were practically no differences between the ALL_1 group ($\bar{X}$ = 3.37) and the HAI group ($\bar{X}$ = 3.43). The HAI group was rated significantly lower than the FR_1 and FR_2 groups on grammar (HAI, $\bar{X}$ = 3.42; FR_1, $\bar{X}$ = 3.70; FR_2, $\bar{X}$ = 3.77) and communication I (HAI, $\bar{X}$ = 3.43; FR_1, $\bar{X}$ = 3.89; FR_2, $\bar{X}$ = 3.98), but not on vocabulary and communication II. There were no significant differences between the FR_1 and FR_2 groups on these four measures. The results for the socio-linguistic factor, i.e., the use of expressions such as ben donc, pis, t'sais, reveal that the ALL_1 and HAI groups used significantly fewer such expressions than the FR_1 group who also used fewer such expressions than the FR_2 group (for details see Table 3).

(2) The Mathematics Test Results

As in the case of the test de rendement en français, the results of the test de rendement en mathématiques were analyzed using once the raw scores and once the converted stanine scores. The statistical analysis of the stanine scores reveals that the ALL_2 group ($\overline{X} = 3.56$) scored significantly lower than the ALL_1 group ($\overline{X} = 4.68$), the FR_1 group ($\overline{X} = 4.70$) and the FR_2 group ($\overline{X} = 5.23$). The HAI group ($\overline{X} = 4.17$) also scored significantly lower than the FR_2 group. There were no other significant differences among the groups on the stanine scores. In terms of test norms for the French population of the C.E.C.M., four of the groups (FR_1, FR_2, HAI and ALL_1) scored within the "average range", whereas the ALL_2 group scored one step below.

The analysis of the raw scores of the test de rendement en mathématiques pertains again only to the results of the ALL_2, ALL_1, HAI and FR_1 groups since the raw scores for this test were not available for the FR_2 group. The results of the statistical analysis show that, on the total score, the ALL_2 group ($\overline{X} = 18.92$) scored significantly lower than the other three groups (ALL_1, $\overline{X} = 23.23$; HAI, $\overline{X} = 21.57$; FR_1, $\overline{X} = 23.56$). The ALL_2 group also scored significantly lower than the ALL_1 group on operations (ALL_2, $\overline{X} = 5.78$; ALL_1, $\overline{X} = 6.71$) and on number concepts (ALL_2, $\overline{X} = 5.74$; ALL_1, $\overline{X} = 7.60$). On the other hand, on two of the subtests (problem solving and figure concepts), the ALL_2 group did not score significantly lower than the other groups. Among the ALL_1, HAI and FR_1 groups, there were no significant differences on either the total scores or the subtest scores except in the case of the operations subtest

where the HAI group ($\bar{X}$ = 5.75) scored significantly lower than the ALL_1 group ($\bar{X}$ = 6.71). Interestingly, numberically the ALL_1 group ranked closest to the FR_1 group on all of the mathematics subtests. Thus, in descending order, the groups ranked as follows: (1) FR_1, (2) ALL_1, (3) HAI, (4) ALL_2 (for further details of the exact scores see Table 4).

The Effect of Francophone Peers in the Classrooms

As in the grade 3 study, the results of the ALL_1 group were re-analyzed in order to see whether the proportion of francophone students in the classroom affects the development of the allophones' French language skills; (the results of the ALL_2 students were not included here because it was felt that their insertion into the regular classroom had been too recent). The following four subgroups were formed within the ALL_1 group:(1) allophone students in schools in which there were practically no francophones in grade 4 (non-integrated or NINT group), (2) allophone students in schools in which 20-30% of the grade 4 students were francophones (partially integrated or PINT group), (3) allophone students in schools in which 30-50% of the grade 4 students were francophones (integrated or INT group) and (4) allophone students in schools in which 70-85% of the grade 4 students were French speaking. Some of these students were monolingual French Quebecers and the others were Haitians who spoke French in addition to their native Créole at home (integrated with Haitians or HINT group). For exact sample sizes see Table 5.

Here again, an analysis of covariance procedure was used to analyze the French language and mathematics test results. The outcomes

of these analyses reveal that the HINT group scored numerically higher than the other three groups on all the French language tests. On five measures of evaluation.the difference between the HINT group and some of the other groups were significant. On the test de lecture, the HINT group ($\bar{X}$ = 22.77) scored significantly higher than the other three groups (INT, $\bar{X}$ = 20.19; PINT, $\bar{X}$ = 20.12; NINT, $\bar{X}$ = 18.80). On the written production test, the HINT group ($\bar{X}$ = 3.51) was rated significantly better than the NINT group ($\bar{X}$ = 2.75) on punctuation. On the oral expression test, the HINT group ($\bar{X}$ = 4.07) was rated significantly higher than the PINT group ($\bar{X}$ = 3.40) on pronunciation. Moreover, on the socio-linguistic dimension both the INT group ($\bar{X}$ = 1.79) and the HINT group ($\bar{X}$ = 1.50) were rated significantly higher than the PINT group ($\bar{X}$ = 1.13) and the NINT group ($\bar{X}$ = 1.10). Finally, there were marginally significant differences among the four groups on the total score of the test de rendement en français with the HINT group again receiving the highest score ($\bar{X}$ = 17.70). In fact, the HINT group was the only ethnic group which scored within the "average range" of the stanine scores (step 4). For further details see Table 6.

On the mathematics test, there were no significant differences among the four groups (see Table 7 for the exact scores).

Summary and Discussion

The findings of this study can be summarized as follows:

(1) The ALL_2 group scored significantly lower than the other groups on all the tests, except on the punctuation component of the *test de production écrite* and on two subtests of the *test de rendement en mathématiques* (problem solving and figure concepts).

(2) There were no significant differences between the ALL_1, HAI, FR_1 and FR_2 groups on the *test de lecture* and on three measures of the *test de production écrite* (content, vocabulary and grammar). Moreover, there were no significant differences among the ALL_1, HAI and FR_1 groups on the spelling and punctuation components of the latter test.

(3) The ALL_1 group scored significantly lower than the FR_1 and FR_2 groups on the *test de rendement en français* and on the *test d'expression orale*. On the other hand, the ALL_1 group scored significantly higher than the FR_2 group on punctuation and significantly higher than the HAI group on one subtest of the *test de rendement en mathématiques* (operations).

(4) The HAI group scored significantly higher than the ALL_1 group on the *test de rendement en français* and on four measures of the *test d'expression orale* (pronunciation, grammar, vocabulary and communication II). However the HAI group scored significantly lower than the FR_1 and FR_2 groups on most measures of these tests. Moreover, the HAI group scored significantly lower than the FR_2 group on the stanine score of the *test de rendement en mathématiques*.

(5) The FR_1 group scored significantly higher than the FR_2 group on the test de rendement en français (stanine score) and on two measures of evaluation of the test de production écrite: spelling and punctuation. On the other hand, the FR_1 group was rated significantly lower than the FR_2 group on two measures of evaluation of test d'expression orale: pronunciation and the socio-linguistic factor.

(6) Within the ALL_1 group, the HINT group scored significantly higher than the other three groups on the test de lecture. The HINT group also received a significantly higher score on the test de rendement en français (total score). Finally, the HINT group was rated significantly higher than the NINT group on punctuation and significantly higher than the PINT group on pronunciation.

Several noteworthy conclusions can be drawn from this study. First, the length of time an allophone student has been integrated into the regular French classroom plays a decisive note in his or her ability to cope with the program. The study clearly shows that students who have followed the regular program for one or two years (ALL_2 group) are not only less proficient in French than their allophone peers who have been in the program for three years or more (ALL_1 group), but are also less competent in mathematics. It is, however, difficult to know whether their performance on the mathematics tests was influenced by their limited knowledge of French or by the fact that they may not have received the same basic training in mathematics as their peers who, for the most part, followed the P.S.B.G.M. program

from grade 1.

Secondly, the finding that the performance of the ALL_1 group did not differ significantly from that of the two francophone groups on three major tests: test de lecture, test de production écrite (except spelling) and test de rendement en mathématiques suggests that the gap between the allophones and the francophones has decreased over the course of the year (see Adiv and Doré, Note 5 for a comparison with the grade 3 results). Nevertheless, the allophones' performance on the test de rendement en français and the test d'expression orale remains markedly lower than that of their peers. In the case of the test de rendement en français, this may be due to the heavy emphasis this test puts on vocabulary (practically 50% of the items were related to this feature). With regard to oral expression, the continued difference between allophones and francophones is more difficult to explain, especially in those schools where native French speaking children were present in the classroom. It is possible that the influence of a limited number of francophone peers in the classroom diminishes as the allophone students become more proficient in French. This seems to be borne out by the finding that only in the case where the proportion of French speaking children in the classroom was very large (HINT group) were there significant differences among the different subgroups in the ALL_1 group.

Another noteworthy finding in this year's study is that the FR_1 group (francophone students from the P.S.B.G.M. schools) scored significantly higher than the FR_2 group on the test de rendement en

français. The FR_1 group was also rated significantly higher than the FR_2 group on spelling and punctuation. Since these latter skills are largely mechanical and depend more on classroom practice than general language development, the findings suggest that the P.S.B.G.M. curriculum may put more emphasis on these subjects. This could also explain why even the ALL_1 group performed better than the FR_2 group in these areas.

On the other hand, the FR_1 students were rated significantly lower than the FR_2 students on pronunciation and on the socio-linguistic dimension. This difference in performance seems to arise from the fact that about one third of the francophone children in the P.S.B.G.M. came from families who were not native French Quebecers. Hence the accent of these children may have been judged by the raters to be less native-like than that of children whose parents were French Quebecers. In a similar vein, these francophone children would be less likely to use interjections such as ben donc or other expressions which characterize the speech patterns of native Quebecers. It is self-understood that these findings are only indicative of the extent to which francophone children who are not native Quebecers (as defined above) adopt the local speech patterns and that they do not reflect deficiencies in the level of French proficiency of these children.

Finally, a word should be said about the performance of the Haitian students. As noted in the beginning, the performance of the Haitian students in grades 2 and 3 had been as good as that of the francophone students in the P.S.B.G.M. except in oral expression. In this year's evaluation, however, the HAI students had scored

significantly lower than the FR_1 group on the test de rendement en français. Moreover, they also ranked one step lower on the stanine scale for this test (in grade 3, both the P.S.B.G.M. francophones and the Haitian students had had a stanine score of 5, whereas this year the FR_1 group had a score of 5 and the HAI group had a score of 4). Thus, it would seem that by comparison to the control group of the P.S.B.G.M, this year's Haitian students were, in some respects, less proficient in French than those in previous years.

On the other hand, the Haitians' oral performance seems to have improved somewhat. In fact, this year's evaluation is the first one to show that the Haitian students were not rated significantly lower than the P.S.B.G.M. control group on vocabulary and on certain aspects of communication (Communication II). Interestingly, the Haitian students seemed less proficient when they had to sustain a conversation where there was no pictorial support (Communication I). It is possible that socio-linguistic and cultural factors come into play here. In a picture narrating task, the student interacts only minimally with the tester, whereas in an interview the situation may be perceived by the student as a more formal adult-student interaction (Holmes, 1978).

In conclusion, the outcomes of this study seem to indicate that by the end of grade 4, those allophone students who have been in the program for a number of years performed as well as their francophone peers in many of the literacy-based tests, notably reading, written expression and mathematics. Yet their achievement on the test de rendement en français suggests that the development

of certain skills, particularly those that require the use of a more elaborate vocabulary and formal knowledge of the grammar are still below grade level. In order to help students overcome these weaknesses, it may be advisable to make certain adjustments in the French language arts program in those classes which have large proportions of allophone students. Alternatively additional activities could be devised for these students which would empasize the development of a more diversified vocabulary and which would deal with those aspects of grammar which are particularly difficult for second language learners.

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Table 1A

Sample Sizes

Regular allophone group (ALL_1)	168
Relatively new arrivals (ALL_2)	20
Haitian group (HAI)	47
Francophone group from P.S.B.G.M. (FR_1)	86
Francophone group from outside (FR_2)	37

Table 1B

Sample Size for Oral Production Test[a]

Regular allophone group (ALL_1)	60
Haitian group (HAI)	19
Francophone group from P.S.B.G.M. (FR_1)	28
Francophone group from outside (FR_2)	22

[a]The oral production test was not administered to the ALL_2 group.

Table 2

Percentage of Francophone, Haitian and Allophone Students in the Grade 4 Classes of the Participating P.S.B.G.M. Schools

	FR %	HAI %	ALL %
Ahuntsic (57)[a]	45.6	38.6	15.8
Ogilvie (52)	34.6	38.5	26.9
Maisonneuve (18)	50.0	16.7	33.3
Willowdale (17)	41.2	5.9	52.9
Westminster (29)	27.6	-	72.4
Edouard VII (47)	21.3	6.4	72.3
Iona (53)	24.5	-	75.5
Barclay (23)	8.7	4.3	87.0
Algonquin (52)	1.9	7.7	90.4

[a]Total number of students in the classes tested indicated in parentheses.

Table 3

Summary of French Test Results[a]

	ALL_2	ALL_1	HAI	FR_1	FR_2	F ratio	df
Lecture (30)[b]	16.24	20.02	20.76	22.20	21.62	19.72***	4,329
Rendement en français							
- Stanine (9)	2.26	3.33	4.60	5.40	4.74	41.22***	4,342
- Total (35)	10.93	15.24	19.85	22.83	N.A.	50.87***	3,307
- Usage (8)	2.07	3.19	4.34	5.06	N.A.	32.80***	3,307
- Vocab. (14)	4.33	6.11	7.67	9.63	N.A.	44.47***	3,307
- Grammar (9)	3.24	4.64	5.74	6.29	N.A.	20.52***	3,307
Production écrite							
- Content (5)	2.67	3.11	3.36	3.24	3.11	2.82*	4,230
- Vocabulary (5)	2.60	3.04	3.20	3.22	3.06	4.21**	4,320
- Grammar (5)	2.33	2.71	2.86	2.91	2.88	4.38**	4,320
- Spelling (5)	2.40	2.81	3.03	3.09	2.57	7.43***	4,320
- Punctuation (5)	2.66	2.99	2.71	2.98	2.40	3.72**	4,320

Table 3 (cont'd)

Summary of French Test Results

	ALL_2	ALL_1	HAI	FR_1	FR_2	F ratio	df
Expression orale							
- Pronunc. (5)	N.A.	3.57	3.81	4.60	5.00	63.97***	3,124
- Grammar (5)	N.A.	3.10	3.42	3.70	3.77	18.25***	3,124
- Vocabulary (5)	N.A.	3.28	3.83	3.90	3.66	8.27***	3,124
- Communic. I (5)	N.A.	3.37	3.43	3.89	3.98	6.08***	3,124
- Communic. II (5)	N.A.	3.47	3.87	3.89	3.91	5.15**	3,124
- Socio-ling. (3)	N.A.	1.25	1.38	1.87	2.48	48.76***	3,124

* $p < .05$
** $p < .01$
*** $p < .001$

N.A. not available

[a]Mean scores joined by a solid line differ significantly from one another according to the Newman-Keuls Multiple Comparison Test.

Mean scores joined by a broken line do not differ significantly from one another.

[b]Maximum scores in parentheses.

Table 4

Summary of the Mathematics Test Results[a]

	ALL_2	ALL_1	HAI	FR_1	FR_2	F ratio	df
Rendement en mathématiques							
- Stanine (9)[b]	3.56	4.68	4.17	4.70	5.23	4.50**	4,342
- Total (40)	18.92	23.23	21.57	23.56	N.A.	4.63**	3,306
- Problems (6)	3.00	3.23	3.24	3.43	N.A.	0.63	3,306
- Operations (9)	5.78	6.71	5.75	6.41	N.A.	4.14**	3,306
- Number Concepts (15)	5.74	7.60	7.20	7.89	N.A.	3.75*	3,306
- Figure Concepts (10)	4.61	5.67	5.49	5.83	N.A.	2.28	3,306

*$p < .05$
**$p < .01$

[a]Mean scores joined by a line differ significantly from one another according to the Newman-Keuls Multiple Comparison Test.

[b]Maximum scores in parentheses.

N.A. not available

Table 5

Sample Sizes for Subgroups Within the ALL_1 Group

Non-integrated group (NINT)	58
Partially integrated group (PINT)	81
Integrated group (INT)	14
Integrated with franco. and Haitians (HINT)	16

Table 6

Summary of French Test Results[a] within the ALL_1 Group

	NINT	PINT	HINT	INT	F ratio	df
Lecture (30)[b]	18.80	20.12	22.77	20.19	4.31**	3,157
Rendement en français						
- Stanine (9)	3.06	3.40	4.03	3.14	2.54	3,161
- Total (35)	14.17	15.78	17.70	14.09	2.70*	3,161
- Usage (8)	3.02	3.24	3.78	3.11	1.02	3,161
- Vocabulary (14)	5.66	6.35	7.22	5.64	2.03	3,161
- Grammar (9)	4.46	4.75	5.19	4.08	1.00	3,161
Production écrite						
- Content (5)	3.16	3.02	3.30	3.19	0.72	3,151
- Vocabulary (5)	3.05	2.95	3.17	3.17	0.99	3,151
- Grammar (5)	2.67	2.66	3.05	2.73	1.88	3,151
- Spelling (5)	2.74	2.74	3.02	3.11	1.97	3,151
- Punctuation (5)	2.75	3.01	3.51	3.37	3.68	3,151

Table 6 (cont'd)

Summary of French Test Results
within the ALL_1 Group

	NINT	PINT	HINT	INT	F ratio	df
Expression orale						
- Pronunciation (5)	3.60	3.40	4.07	3.56	3.27*	3,54
- Grammar (5)	3.13	2.98	3.26	3.27	0.98	3,54
- Vocabulary (5)	3.40	3.14	3.51	3.13	0.97	3,54
- Communic. I (5)	3.33	3.21	3.63	3.63	1.01	3,54
- Communic. II (5)	3.58	3.31	3.83	3.33	1.56	3,54
- Socio-ling. (3)	1.10	1.13	1.50	1.79	12.41***	3,54

*$p < .05$
***$p < .001$

[a]Mean scores joined by a solid line differ significantly from one another according to the Newman-Keuls Multiple Comparison Test.

Mean scores joined by a broken line do not differ significantly from one another.

[b]Maximum scores in parentheses.

Table 7

Summary of the Mathematics Test within the ALL_1 Group

Rendement en mathématiques	NINT	PINT	HINT	INT	F ratio	df
- Stanine (9)[a]	4.76	4.70	4.22	4.57	0.47	3,160
- Total (40)	23.50	23.24	21.91	22.91	0.32	3,160
- Problems (6)	3.10	3.43	2.70	3.05	1.62	3,160
- Operations (9)	7.09	6.52	6.38	6.61	1.27	3,160
- Number Concepts (15)	7.76	7.48	.04	96	0.43	3,160
- Figure Concepts (10)	5.49	5.81	5.79	5.29	0.46	3,160

[a]Maximum scores in parentheses.